

**BACKGROUND DOCUMENT FOR FINAL CPG V
AND FINAL RMAN V
APPENDICES I-IV**

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APPENDIX I

MATERIALS IN SOLID WASTE

I. Materials in Solid Waste

The Resource Conservation and Recovery Act (RCRA) section 6002 provides criteria for the U.S. Environmental Protection Agency (EPA) to consider when selecting items for designation. One of these criteria is the impact of procurement on the amount of solid waste that is generated, treated, and disposed. EPA's designation of an item should promote the statute's underlying objective of using government procurement to foster markets for items containing materials recovered from solid waste. Consistent with this objective, each of the items that EPA proposes to designate is made with one or more recovered materials. This appendix briefly discusses many of the materials that are typically recovered from various solid waste streams and provides a more detailed discussion of the materials used in the items proposed for designation in the Comprehensive Procurement Guidelines (CPG) V and Recovered Materials Advisory Notices (RMAN) V.

A. General Overview of Materials in Solid Waste

Generally, solid waste has several components, such as municipal solid waste (MSW), construction and demolition (C&D) debris, and nonhazardous industrial waste. In addition, there are a number of materials that might not be considered "typical" solid waste streams. For example, materials such as agricultural waste are not generally captured in collection programs, but nonetheless might be generated in high volumes and can have multiple beneficial uses. Many of the items proposed for designation in the CPG V are made from these types of recovered materials (e.g., biosolids, animal manures, etc.). These materials might be used in conjunction with other solid wastes to make new products, or might be used as the primary or sole recovered material in a product. EPA considers all types of recovered materials when designating items in the CPG.

EPA publishes annual characterization reports of the generation and recovery of MSW. EPA's latest MSW characterization study, which presents 2005 waste generation and recovery data, addresses the following materials: paper and paperboard, glass, metals, plastic, rubber and leather, textiles, wood, food waste, yard trimmings, miscellaneous inorganic wastes, and other materials. Table 1 shows the 2005 generation and recovery data.

Table 1

GENERATION AND RECOVERY OF MATERIALS IN MSW, 2005
(in millions of tons and percent of generation of each material)

Material	Weight Generated	Weight Recovered	Recovery As a Percent of Generation
Paper and paperboard	84.0	42.0	50.0%
Glass	12.8	2.76	21.6%
Metals			
Steel	13.8	4.93	35.8%
Aluminum	3.21	0.69	21.5%
Other nonferrous metals*	1.74	1.26	72.4%
<i>Total metals</i>	18.7	6.88	36.8%
Plastics	28.9	1.65	5.7%
Rubber and leather	6.70	0.96	14.3%
Textiles	11.1	1.70	15.3%
Wood	13.9	1.31	9.4%
Other materials	4.57	1.17	25.6%
<i>Total Materials in Products</i>	180.7	58.4	32.3%
Other wastes			
Food, other**	29.2	0.69	2.4%
Yard trimmings	32.1	19.9	61.9%
Miscellaneous inorganic wastes	3.69	Neg.	Neg.
<i>Total Other Wastes</i>	65.0	20.6	31.6%
<i>TOTAL MUNICIPAL SOLID WASTE</i>	245.7	79.0	32.1%

Includes waste from residential, commercial, and institutional sources.

* Includes lead from lead-acid batteries.

** Includes recovery of other MSW organics for composting.

Details may not add to totals due to rounding.

Neg. = Less than 5,000 tons or 0.05 percent.

(<http://www.epa.gov/msw/pubs/mswchar05.pdf>, "Municipal Solid Waste in The United States: 2005 Facts and Figures," U.S. EPA, October 2006.)

B. Materials Used in Items Proposed for Designation in the CPG V

A variety of recovered organic materials can be used in the items designated in the CPG V. Table 2 identifies some of the more common materials. A brief discussion of the use of each material is also included below. Within the discussion of each material that can be used as fertilizer, a value is given for the typical amount of nitrogen (N), phosphorous (P), and potassium (K) present in that material (NPK value). The NPK value represents the percentage of fertilizer that each element composes. For example, an NPK of 3-2-1 indicates that a fertilizer is 3 percent nitrogen, 2 percent phosphorous, and 1 percent potassium. The values presented here are not recommended values, but simply indicate typical ranges found in fertilizers made from the indicated material. Theses ranges vary and should be checked with each fertilizer used.

Additional references to materials can be found in the Background Document for Final CPG/RMAN V, which is found in the docket for this final rulemaking, as well as on the CPG Web site (www.epa.gov/cpg).

**Table 2
Recovered Materials Used in Items Designated in the CPG V**

Recovered Materials	Designated Items
Animal manure* Biosolids*	Compost
Alfalfa meal Blood meal Cottonseed meal Feather meal Fish meal Meat and Bone meal Poultry manure/litter Soybean meal Wood ash	Fertilizers

* These materials can be combined with other organic materials, such as yard waste and wood chips in the composting process

1. Animal Manure

The 1997 Census of Agriculture from USDA's National Agricultural Statistics Service reported that 860 million tons of animal manure were produced in the United States (includes manure produced from pigs, cattle, and sheep, but not poultry). EPA was not able to find a statistic reflecting how much of the manure is applied to land versus composted. In 2002, 22.8 million acres of cropland and pasture land had manure applied to them. (USDA National Agriculture Statistic Service Agricultural Use Data Base, Atlas Map 02-M104; http://www.nass.usda.gov/Statistics_by_Subject/Envrionmental/index.asp)

According to the FY-2005 Annual Report on Manure and Byproduct Utilization - National Program 206, the total amount of manure, biosolids (treated sewage sludge), and other municipal and industrial byproducts generated annually in the United States exceeded 1 billion tons. The majority of all animal manure and significant amounts of selected municipal and industrial byproducts are spread, sprayed, or otherwise applied to agricultural land because of the benefits they can provide. Animal manure and biosolids provide nutrients for crop production and organic matter to improve soil properties. Improperly managed manure and other byproducts, however, can pose a threat to soil, water, air quality, and human and animal health (http://www.ars.usda.gov/research/programs/programs.htm?np_code=206&docid=13337).

New technological innovations and the economic advantage of size have driven a structural shift from small to large operations where animals are grown in houses, feedlots, and other confinement facilities. These production facilities are referred to as animal feeding operations (AFOs). Large AFOs are called concentrated animal feeding operations (CAFOs). The largest 2 percent of all livestock farms now produce over 40 percent of all animals. The amount of manure generated in the United States at CAFOs and AFOs is estimated to exceed 335 million tons of dry matter per year (USDA FY-2005 Annual Report Manure and Byproduct Utilization National Program 206 http://www.ars.usda.gov/research/programs/programs.htm?np_code=206&docid=13337).

2. Biosolids

Biosolids are the nutrient-rich organic materials resulting from the treatment of sewage sludge. Although the terms biosolids and sewage sludge are often used interchangeably, biosolids are the end product of sewage sludge treated with anaerobic digestion in combination with heat. According to the EPA report, *Biosolids Generation, Use, and Disposal in the United States*, approximately 6.9 million tons of biosolids were generated in 1998, of which about 60 percent were used beneficially (e.g., land-applied, composted,

used as landfill cover) and 40 percent were disposed (i.e., discarded with no attempt to recover nutrient or other valuable properties). At least 20 percent were managed by MSW facilities through either landfiling (17 percent) or as landfill cover (3 percent). An estimated additional 6 percent were managed by MSW facilities in composting programs. The report estimated that 7.1 million tons of biosolids would be generated for use or disposal in 2000, 7.6 million tons in 2005, and 8.2 million tons in 2010. The report anticipated that the percentage of biosolids used (rather than disposed) would grow from 63 percent in 2000, to 66 percent in 2005, and 70 percent in 2010. Increasing the use of biosolids in composting would help to further reduce the amount of biosolids disposed and nutrients wasted (EPA 530-R-99-009, September 1999).

3. Alfalfa Meal

The North American Alfalfa Improvement Conference reports that 23.6 million acres of alfalfa are cut for hay every year in the United States. The average alfalfa yield is 3.35 tons per acre, meaning that the total U.S. alfalfa production is more than 79 million tons. Alfalfa meal is generally considered a beneficial soil amendment because it contains triacontanol, a plant growth regulator, and has an approximate NPK ranging from 2.5-1-1 to 2.5-0.5-2 (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html>).

4. Blood Meal

The annual production of blood meal in the United States was estimated to be 101,300 metric tons as of October 2000. With an approximate NPK ranging from 12.5-1.5-0.6 to 12.5-1.1-1.0, blood meal provides supplemental nitrogen to promote flower and vegetable growth (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html> and *Organic Greenhouse Vegetable Production* <http://attra.ncat.org/attra-pub/ghveg.html#table1>)

5. Cottonseed Meal

Since 2004, annual production of cottonseed meal in the United States has been over 1.3 million short tons, according to the National Cotton Council. Cottonseed meal has an approximate NPK ranging from 6-2-1 to 7-2.5-1.5 and is generally used for plants that require a lower soil pH (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html>).

6. Feather Meal

According to the Poultry Waste Management Symposium Proceedings, published in October, 2004, the annual production of feather in the United States was approximately 5 billion tons. The most common end product made from feathers is feather meal. Feeding feather meal to animals is not allowed in Europe, and economic pressure exists globally to find a more stable and profitable feather meal product. Utilizing feather meal as fertilizer is one option, producing a soil amendment with an approximate NPK ranging from 13-0-0 to 15-0-0. Feather meal is considered a cost-effective source of a moderate to slow-releasing form of nitrogen, ideal for leafy green vegetables (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html>).

7. Fish Meal

In 2005, the National Oceanic and Atmospheric Administration (NOAA) reported that 254,730 metric tons of fish meal was produced in the United States. Fish meal has an approximate NPK ranging from 10-5-0 to 10-3.7-0.1 and is suitable for use as a general soil amendment (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html> and *Organic Greenhouse Vegetable Production* <http://attra.ncat.org/attra-pub/ghveg.html#table1>).

8. Meat and Bone Meal

As of October 2000, the annual production of meat and bone meal in the United States was estimated to be 2.8 million metric tons. With an approximate NPK of 2-28-0, bone meal is utilized as a soil amendment to provide a natural source of phosphorous that promotes strong root development.

9. Poultry Litter

According to the Farm Sanctuary Newsletter, it was estimated that in 1997 the annual production of poultry litter totaled 19.8 million tons, with chickens producing 14.4 million tons and turkeys producing 5.4 million tons. One company alone estimates its pelleted poultry fertilizer diverts approximately 149,000 tons of poultry litter from the solid waste stream annually, indicating the large role that utilizing poultry litter fertilizer can play in diverting waste from the solid waste stream. With an approximate NPK of 4-2-3, poultry litter provides an excellent source of the nutrients necessary to plant growth.

10. Soybean Meal

The American Soybean Association estimates that U.S. production of soybean meal in 2004 was 32.95 million metric tons. Soybean meal has an approximate NPK ranging from 7.5-0.7-2.4 to 6.5-1.5-2.4, making it a good low-nitrogen fertilizer that also contains some phosphorous and potassium (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html> and *Organic Greenhouse Vegetable Production* <http://attra.ncat.org/attra-pub/ghveg.html#table1>).

11. Wood Ash

According to a Clemson University report, approximately 3 million tons of wood ash are produced annually in the United States. While approximately 80 percent of all ash is land-applied in the Northeast, less than 10 percent is land-applied in the Southeast. The other 90 percent of this wood ash is landfilled. However, in a survey of more than 80 southeastern paper mills, about 60 percent of the respondents reported interest in land application of wood ash. Wood ash has an approximate NPK ranging from 0-1-3 to 0-1.5-5, and is a good source of calcium, as well as many other micronutrients required in trace amounts, for plant growth (National Sustainable Agriculture Information Service's *Potting Mixes for Certified Organic Production*, <http://attra.ncat.org/attra-pub/potmix.html>).

APPENDIX II

DISCUSSION OF RCRA SECTION 6002 REQUIREMENTS

II. Discussion of RCRA Section 6002 Requirements

This appendix provides detailed information regarding the applicability of RCRA section 6002.

A. Who Is a Procuring Agency?

Many of the RCRA section 6002 requirements apply to “procuring agencies,” which are defined in RCRA section 1004(17) as “any federal agency, or any state agency or agency of a political subdivision of a state that is using appropriated federal funds for such procurement, or any person contracting with any such agency with respect to work performed under such contract.” Under the statute, responsibility for complying with RCRA section 6002 rests with each individual procuring agency. RCRA identifies three types of “procuring agencies”: (1) federal agencies, (2) state or local agencies using appropriated federal funds, and (3) contractors to (1) and (2). Procuring agency requirements are discussed in detail below. Also refer to Appendix V for additional information about affirmative procurement requirements.

Private recipients of federal funds (e.g., nonprofit organizations or individual recipients of Farm Home Administration loans or other federal loans, grants, or funds under a cooperative agreement) are not procuring agencies and, therefore, are not subject to RCRA section 6002. This is true whether the originator of the grant, loan, or cooperative agreement is a federal agency or a state or local agency recipient of federal funds.

1. Federal, State, and Local Government Agencies

Federal agencies are always procuring agencies, because the RCRA section 6002 requirements apply to federal agencies whether or not appropriated federal funds are used for procuring designated items. All federal agencies are procuring agencies regardless of their funding authority (e.g., revolving funds). Despite this, the RCRA section 6002 requirements apply only when federal agencies procure designated items. They do not apply when federal agencies simply disburse funds to state or local agencies; in these instances, the federal agencies are not purchasing or acquiring anything. State or local agencies are procuring agencies and must comply with the guidelines if they use appropriated federal funds for procurement of designated items. RCRA requirements apply to individual state agencies, not to a state as a whole. For example, if a state receives several hundred thousand dollars in grant monies, only the state agency or agencies purchasing \$10,000 worth or more of a designated product must comply with section 6002 requirements.

On October 14, 1994, the Office of Management and Budget (OMB) published revisions to Circular A-102 to clarify the circumstances in which RCRA section 6002 applies to state and local recipients of federal funds.

2. Contractors

Contractors must comply with section 6002 with respect to work performed under the contract if they (1) contract with a federal agency or a state agency that is using appropriated federal funds for a procurement and (2) purchase or acquire a designated item whose purchase price exceeds \$10,000 or purchased \$10,000 or more worth of the item during the previous year. Subcontractors are not procuring agencies; section 6002 limits contractors subject to its requirement to direct contractors with a federal agency or state or local “procuring agency.”

It is immaterial for purposes of the \$10,000 threshold whether the contractor purchased or acquired the designated items as a “procuring agency” (with respect to work performed under a contract with a federal or state agency) or in its private capacity. However, the obligations of section 6002 are prospective. The contractor must determine whether the \$10,000 threshold is met only after it is a “procuring agency.” That is, purchases exceeding the \$10,000 threshold in the year prior to the year in which a contractor becomes a “procuring agency” do not trigger section 6002 requirements. Furthermore, while contractors are subject to the section 6002 requirements once they exceed the threshold, those requirements apply only with respect to work performed under the contract (i.e., when supplying the designated item to any state or federal agency).

For example, in Year One, Contractor X contracts to supply \$500 of hydraulic mulch to a state agency using appropriated federal funds to purchase the hydraulic mulch. Therefore, in Year One, Contractor X is a “procuring agency.” During Year One, Contractor X also purchases hydraulic mulch for its own use for its other customers, with total purchases of hydraulic mulch exceeding \$10,000. In Year One, while Contractor X is a procuring agency, Contractor X is not subject to the RCRA section 6002 requirements for hydraulic mulch supplied to the state agency, because the contract price of the mulch does not exceed \$10,000. In Year Two, Contractor X is subject to RCRA section 6002 requirements for hydraulic mulch regardless of the amount of the contracted purchase, because, while a “procuring agency” in Year One, it purchased in excess of \$10,000 of hydraulic mulch.

In another example, in Year One, Contractor Y purchases \$10,000 of hydraulic mulch, but none was purchased on behalf of a government agency using appropriated federal funds. In Year One, Contractor Y is

not a procuring agency. In Year Two, Contractor Y contracts to supply less than \$10,000 of hydraulic mulch to a state agency using appropriated federal funds. In Year Two, Contractor Y is a procuring agency but is not subject to RCRA section 6002 requirements, because it was not a procuring agency during the previous year when it acquired in excess of \$10,000 of hydraulic mulch.

Contractors can require certifications of recycled content items to be submitted with offers. Alternatively, EPA recommends that when an estimate has been provided in a bid, the certification of what materials were actually used in the performance of the contract should be submitted with the last invoice.

B. To Which Purchases Does Section 6002 Apply?

1. Direct and Indirect Purchases

RCRA section 6002 requirements apply to both direct and indirect purchases. Purchases made as a result of a solicitation by procuring agencies for their own general use or that of other agencies (e.g., purchases by the U.S. General Services Administration's [GSA's] Federal Supply Service) are "direct" purchases. Purchases of items as part of a contract also are "direct" purchases. Indirect purchases are purchases by a state or local agency using appropriated federal funds or, in some instances, its contractors. Therefore, purchases of designated items meeting the \$10,000 threshold made by states, political subdivisions of states, or their contractors are subject to RCRA section 6002.

2. Incidental Purchases Do Not Apply

The procurement requirements do not apply to purchases if they are unrelated to or incidental to the federal funding, (i.e., not the direct result of the funds disbursement). For example, if an entity has a federal contract to do research and builds or expands a laboratory to conduct the research, the construction is incidental to the contract, as is the purchase of construction materials.

3. Block Grants, Commingled Monies, and Leases

RCRA section 6002 procurement requirements apply whenever federal monies, including block grants, are used, whether or not they are commingled with nonfederal funds. In addition, RCRA section 6002 also applies to a procuring agency's lease contracts for designated items. The Federal Acquisition Regulation (FAR) defines "acquisition" to include supplies or services (including construction) acquired by means of a

lease (48 CFR 2.101). Under the definition of “procuring agency,” therefore, lesser contractors are subject to the RCRA section 6002 requirements for work performed under the lease contract.

RCRA section 6002 also applies to Department of Transportation (DOT) grant programs. The conference committee report from the Hazardous and Solid Waste Amendments of 1984 (Cong. Rec. H 11138 [Oct. 3, 1984]) states:

To assure the fullest participation by procuring agencies, the Conferees wish to resolve any ambiguity with respect to §6002's coverage of the Department of Transportation, in particular the Federal Highway Administration (FHWA). The FHWA is a "procuring agency" under the Solid Waste Disposal Act and is therefore fully responsible for implementing the guidelines and other requirements of §6002. It is the intent of Congress that both FHWA's direct procurement and indirect Federal-aid programs (Federal Highway Trust Fund) be covered by the requirements of §6002 as amended by this Act. Indirect purchases by the Federal Aviation Administration are also covered under Section 6002 in the same manner as is the FHWA. Coverage of the FHWA's direct and indirect procurement activities under this amendment extends to the review of procurement specifications pursuant to Section 6002(d), as amended, in addition to the affirmative procurement program required under this section.

C. What Is the \$10,000 Threshold?

RCRA section 6002 procurement requirements apply to any purchase by procuring agencies of an item costing more than \$10,000 or when the procuring agencies purchased \$10,000 worth of the item or of functionally equivalent items during the preceding fiscal year.

RCRA section 6002 clearly sets out a two-step procedure for determining whether the \$10,000 threshold has been reached. First, procuring agencies must determine whether they purchased \$10,000 worth of a designated item or functionally equivalent items during the preceding fiscal year. If so, the requirements of RCRA section 6002 apply to all purchases of these items occurring in the current fiscal year. Second, if the procuring agencies did not procure \$10,000 worth of a designated item during the preceding fiscal year, they are not subject to RCRA section 6002 unless they make a purchase of the item exceeding \$10,000 in the current fiscal year. The section 6002 requirements then apply to the \$10,000 purchase of the designated item;

to all subsequent purchases of the item made during the current fiscal year, regardless of size; and to all procurements of the designated item made in the following fiscal year.

Section 6002(a) does not specify that the procurement requirements are triggered when the aggregate quantity of items purchased during the current fiscal year is \$10,000 or more. Procuring agencies need not keep a running tally during the year of procurements of designated items. Rather, they should compute their total procurements of a designated item once at the end of the fiscal year and only if they intend to claim an exemption from the requirements of RCRA section 6002 in the following fiscal year.

The RCRA section 6002 requirements apply to each federal agency as a whole. During each fiscal year, each major federal agency as a whole purchases or causes the purchase of more than \$10,000 worth of many of the designated items. Therefore, the requirements of RCRA section 6002 apply to all procurements of these items by these agencies and their subunits.

1. Purchases of Individual Items or Groups of Items

As stated above, the \$10,000 threshold can apply to agencies' purchases of either individual items or categories of items. Within the paper and paper products category, for example, if an agency purchases \$4,000 worth of computer paper, \$3,000 worth of federal forms, and \$3,000 worth of other office papers, these combined purchases achieve the threshold for that designated item, and the agency's green purchasing plan (GPP) should address the acquisition of paper and paper products containing recovered materials both directly (e.g., the purchase of boxes of copier paper) and through services contracts (e.g., the supply of paper towels and toilet paper as part of a janitorial services contract).

2. The Cost of Services

If the cost of services and the material cost are inextricably linked, the \$10,000 threshold can be applied to the combined cost figure. If a procuring agency contracts for construction of a concrete structure, the agency may include the cost of the services (pouring) with the cost of the product (concrete) when calculating how much is spent on cement and concrete. Alternatively, the agency may devise a method of separating the cost of the concrete product from the cost of pouring and finishing.

3. Purchases Made from Another Federal Agency

Many federal agencies procure paper and paper products through GSA and the U.S. Government Printing Office (GPO). Although both of these agencies have their own GPPs, agencies that make purchases through GSA and GPO should still have their own GPPs for the products they purchase. However, the agencies would need to request estimates and certifications from GSA and GPO because these agencies will have already obtained this information in the initial purchases. Similarly, the verification requirement is also fulfilled by GSA and GPO.

In other words, GPO requests estimates and certifications from its vendors and contractors and verifies that the estimates and certifications are correct. It routinely supplies recycled paper whenever possible, even when not specifically requested by a procuring agency. Any order for printing on offset, writing, or newsprint stock, which constitutes the bulk of the jobs, is automatically printed on recycled paper that meets EPA's requirements (if the paper is available).

When GSA supplies products containing recovered content to other agencies, GSA has already obtained and verified estimates and certifications. Nonetheless, agencies are still responsible for monitoring purchases made through other agencies, such as GSA and GPO.

D. How Is Section 6002 Enforced?

Section 6002 of RCRA provides for the Office of Federal Procurement Policy (OFPP) within the OMB to implement its requirements. In addition, section 7002 of RCRA authorizes citizens to sue in federal district court to seek relief against any person alleged to be in violation of requirements of the Act, including RCRA section 6002. The district court has jurisdiction to enforce the requirements.

Under RCRA section 6002, federal grant administering agencies should inform state and local agency grant recipients about the requirements of RCRA section 6002. The grant recipients, in turn, are considered to be "procuring agencies" when they are using appropriated federal funds to purchase designated items and must purchase these items containing recovered materials to the maximum extent practicable. RCRA section 6002 states that procuring agencies need not purchase recycled products if the products are not reasonably available, are only available at an unreasonable price, or do not meet reasonable performance standards. It is silent, however, regarding penalties for failure to purchase recycled products without these limitations. Therefore, each grant administering agency must determine the appropriate response when a grantee does not comply with RCRA section 6002.

RCRA section 7002 authorizes citizens to file a civil action in federal district court against any person alleged to be in violation of a requirement under RCRA. Therefore, a municipality that violates RCRA section 6002 may be subject to suit.

Executive Order 13423 (the Executive Order) directs the Federal Environmental Executive (FEE) to take necessary actions to ensure that agencies comply with the goals and objectives of the Executive Order, including the acquisition goals. In addition, section 3(g) of the Executive Order directs each agency provide reports on Executive Order implementation to the Chairman of the Council on Environmental Quality; these reports will include tracking agency purchases of green products, including EPA-designated items. RCRA also requires the OFPP to submit biennial reports to Congress. OFPP and Office of the Federal Environmental Executive (OFEE) jointly administer an annual data call to the agencies on purchases of EPA-designated items, biobased products, and environmentally preferable products and services.

In addition, beginning in 2006, the OMB implemented environmental stewardship scorecards to track and rate agency progress in meeting five environmental stewardship elements: environmental management systems, green purchasing, sustainable design/green buildings, electronics stewardship, and compliance. Under the green purchasing element, agencies must demonstrate that they have GPPs that include the EPA-designated items, purchase the products, monitor implementation of their green purchasing programs, and take corrective action.

E. How Does RCRA Section 6002 Relate to Other Federal Procurement Regulations?

The purchase of recycled content products under RCRA section 6002 must be consistent with other federal procurement law, which requires that contracts be awarded to the lowest priced, responsive, responsible bidder. Federal law does not currently authorize agencies to pay a premium price for recycled products. Agencies are using other means for purchasing recycled products that may be higher priced than virgin products, such as soliciting only for recycled content products and best value determinations. For example, Yellowstone National Park is using recycled content plastic lumber to replace conventional wooden decking on boardwalks around the geysers and hot springs. The park staff determined that this product was the best value based on reduced maintenance needs and expected longer life because the plastic lumber withstands the acidic spray released by the geysers.

Purchasing the EPA-designated items is consistent with purchasing from mandatory sources, such as affiliates of the National Industries for the Blind, NISH service providers, small-, minority-, women-owned,

and service disabled veteran-owned businesses. Many of the EPA designated items are available from these sources.

On August 22, 1997, the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council issued a rule amending the FAR parts 1, 10, 11, 13, 15, 23, 36, 42, and 52 to reflect the government's preference for the acquisition of environmentally sound and energy-efficient products and services and to establish an Affirmative Procurement Program (APP) favoring items containing the maximum practicable content of recovered materials (62 FR 44809). Among other things, these FAR revisions provide that acquisition planning must include consideration of the energy and environmental aspects of an acquisition and scopes of work, specifications, drawings, and other documents specifying the government's minimum need must include recycled content when the EPA-designated items will be supplied or used and will meet the government's performance needs.

The Paperwork Reduction Act of 1995 (PRA) makes explicit the responsibilities of federal agencies with respect to the development of proposed collections of information and submission of these to OMB for review approval. Accordingly, federal procuring agencies should consult with their legal offices to determine whether their requirements for estimation and certification would require OMB clearance under the PRA.

F. Where Can Agencies Find Assistance or More Information?

EPA assists procuring agencies by investigating and identifying products that can be made with recovered materials. Based on this research, EPA conducts in-depth analyses of the feasibility of including the product in the federal government's procurement program. In addition, EPA provides recommendations and guidance to procuring agencies in their efforts to comply with section 6002 of RCRA through its RMAN.

For more information, agencies should access EPA's CPG Web site (www.epa.gov/cpg).

APPENDIX III

ADDITIONAL POLICIES AND PROCEDURES

III. Additional Policies and Procedures

In addition to the requirements of RCRA section 6002 and the Executive Order, several other federal policies and procedures may affect the procurement of products containing recovered materials. This appendix briefly summarizes requirements and policies set forth in the FAR, OFPP, Policy Letter 92-4, OMB Circulars A-102, A-119, and A-131, and the GSA's proposed Cooperative Purchasing Plan.

A. Federal Acquisition Regulation

The FAR is the primary regulation used by executive agencies in their acquisition of supplies and services (48 CFR 1). FAR part 23 sets forth requirements and procedures for federal agencies to use when procuring EPA-designated items. On August 22, 1997, FAR parts 1, 10, 11, 13, 15, 23, 36, 42, and 52 were amended to reflect the federal government's preference for the acquisition of recycled content, energy-efficient, biobased, and environmentally preferable products and services and to incorporate the requirements of RCRA section 6002. Further FAR revisions are pending, including a revision clarifying that the requirements to purchase EPA-designated items applies to services contracts and construction contracts.

B. OFPP Policy Letter 92-4

OFPP's Policy Letter 92-4, "Procurement of Environmentally Sound and Energy-Efficient Products and Services" (57 FR 53362), establishes executive branch policies for the acquisition and use of environmentally sound, energy-efficient products and services. In addition to reiterating the requirements of RCRA section 6002, the Policy Letter requires executive agencies to (1) identify and procure products and services that, all factors taken into consideration, are environmentally sound and energy-efficient, and (2) employ lifecycle cost analysis to assist in making product and service selections. The Executive Order implementing instructions required OFPP to propose a new policy letter by the end of June 2007. In late June, OFPP transmitted a draft policy letter to the federal agencies for review and comment. OFPP expects to issue the policy letter by the end of fiscal year 2007.

C. OMB Circular A-102

On October 14, 1994, OMB published revisions to OMB Circular A-102, "Grants and Cooperative Agreements with State and Local Governments" (59 FR 52224). Paragraph 2(h) of the circular requires state and local government recipients of federal assistance funding to comply with RCRA section 6002.

D. OMB Circular A-119

OMB Circular A-119, “Federal Participation in the Development and Use of Voluntary Standards” (54 FR 57645), sets forth policy for executive agencies to follow in working with voluntary standards bodies and in adopting and using voluntary standards. Paragraph 7(a)(4) recommends that federal agencies give preference to adopting and using standards that “foster materials, products, systems, or practices that are environmentally sound and energy-efficient.”

E. OMB Circular A-131

OMB Circular A-131, “Value Engineering” (58 FR 31056), requires executive agencies to use value engineering as a management tool to reduce program and acquisition costs. Paragraph 8(b) requires agencies to develop guidelines for both in-house personnel and contractors to identify programs or projects with the most potential to yield savings from the application of value engineering techniques. Paragraph 3(b)(4) further requires this guidance to ensure that the application of value engineering to construction and other projects or programs includes consideration of environmentally sound and energy-efficient results.

F. Federal Acquisition Streamlining Act

RCRA section 60029(c) requires vendors to estimate the percentage of recovered materials used in the performance of a contract. The Federal Acquisition Streamlining Act (FASA) (PL 103-355) amended this section of RCRA to require estimates only for contracts in amounts “greater than \$100,000.”

APPENDIX IV

AFFIRMATIVE PROCUREMENT PROGRAM

IV. Affirmative Procurement Program

Within one year after EPA designates an item, RCRA section 6002(i) requires each procuring agency purchasing more than \$10,000 of that item, or functionally equivalent items in a fiscal year, to establish an APP for that item. The Executive Order 13423 implementing instructions and the draft OFPP policy letter reinforce this requirement; the draft policy letter requires agencies to have GPPs for recycled content, energy- and water-efficient, biobased, and environmentally preferable products and services.

Several statutes address elements of the federal green purchasing program, including RCRA, the Farm Security and Rural Investment Act of 2002 (FSRIA), and the Energy Policy Act of 1992 and 2002 (EPAAct). Rather than addressing these requirements separately, OMB and OFEE require agencies to develop a comprehensive GPP to address acquisition of products and services. OFPP, OFEE, and EPA believe that developing a single GPP will substantially reduce procuring agencies' administrative burdens under RCRA, FSRIA, and EPAAct that result from item designations.

A GPP is an agency's strategy for maximizing its purchases of green products and services, including EPA-designated items. The plan should be developed in a manner that ensures that green products and services are purchased to the maximum extent practicable consistent with federal procurement law.

RCRA section 6002(i) requires that, at a minimum, the plan consist of four elements: (1) a preference program; (2) a promotion program; (3) procedures for obtaining estimates and certifications of recovered materials content and, where appropriate, reasonably verifying those estimates and certifications; and (4) procedures for monitoring and annually reviewing the effectiveness of the green purchasing program. FSRIA section 9002 contains similar requirements for plans for purchasing USDA-designated biobased products. OMB and OFEE require federal agencies to combine these requirements into their GPPs.

EPA recommends that the Senior Official within each major procuring agency take the lead in developing the agency's GPP and in implementing the requirements set forth in the CPG. This recommendation is consistent with the basic responsibilities of Senior Officials as described in Executive Order 13423.

EPA also recommends that if a procuring agency does not purchase a specific designated item, it should simply include a statement in its preference program to that effect. Similarly, if a procuring agency is unable to obtain a particular item for one or more of the reasons cited in RCRA section 6002(c)(1), a similar

statement should be included in the preference program along with the appropriate justification. According to RCRA section 6002(i)(2)(D), it is the procuring agency's responsibility to monitor and regularly update its APP. Should an item that was previously unobtainable become available, then the procuring agency should modify its APP accordingly.

A. Specifications

RCRA section 6002(d)(1) requires federal agencies responsible for drafting and reviewing specifications for procurement items purchased to review and revise their specifications and remove requirements specifying virgin materials only or excluding the use of recovered materials. This revision process should have been completed by May 8, 1986. For items designated by EPA, section 6002(d)(2) directs federal agencies to revise their specifications to require the use of recovered materials to the maximum extent possible without jeopardizing their intended end use. Procuring agencies are required to complete their revisions within 1 year of an item's designation or publication of the CPG revisions, as required by RCRA section 6002(d)(2).

B. Preference Program

A preference program is the system by which an agency implements its stated "preference" for purchasing products containing recovered materials. RCRA section 6002(i)(3) requires procuring agencies to consider the following options when implementing their preference programs: minimum content standards, case-by-case policy development, or a substantially equivalent alternative.

To assist procuring agencies in establishing their preference programs, when EPA designates an item, it examines these statutory options and recommends the approach it believes to be the most effective for purchasing the designated item. Procuring agencies may elect either to adopt EPA's recommended approach or to develop their own approaches, provided the selected approach meets or exceeds EPA's recommendations as described in the RMAN(s).

1. Minimum Content Standards

One approach that RCRA section 6002(i)(3) requires procuring agencies to consider is establishing minimum content standards. RCRA section 6002(i)(3)(B) further requires the procuring agency to ensure that

its standard requires the maximum amount of recovered materials content available for the item, without jeopardizing its intended use.

To assist procuring agencies with establishing their minimum content standards, EPA's RMANs recommend recovered materials content levels, where appropriate, for most of the items it designates. Under RCRA section 6002(i), it is the procuring agency's responsibility to establish minimum content standards, while EPA provides recommendations regarding the levels of recovered materials in the designated items. To make it clear that EPA does not establish minimum content standards for other agencies, EPA refers to its recommendations as "recovered materials content levels," consistent with RCRA section 6002(e).

Whenever possible, EPA's recommendations are expressed as recovered materials content ranges within which the items are available. EPA recommends that procuring agencies use these ranges, in conjunction with their own research into the recovered materials content of items available to them, to establish their minimum content standards. In some instances, EPA recommends a specific level (e.g., 100 percent recovered materials), rather than a range, because the item is universally available at the recommended level.

Refer to section II.C of the Background Document for more information on the methodology that EPA used to establish recovered materials content ranges for the items designated in the CPG IV.

2. Case-by-Case Policy Development

The second approach procuring agencies must consider is case-by-case policy development. RCRA section 6002(i)(3)(A) describes case-by-case policy development as "a policy of awarding contracts to the vendor offering an item composed of the highest percentage of recovered materials practicable," subject to the limitations of RCRA section 6002(c)(1)(A) through (C) (i.e., competition, price, availability, and performance). The case-by-case approach is appropriate where a procuring agency determines that the minimum content standard it has established for a particular designated item is not appropriate for a specific procurement action (i.e., the procuring agency is unable to acquire the item within the limitations described in RCRA section 6002(c)(1)(A) through (C)). The case-by-case approach allows a procuring agency to specify different (usually lower) minimum content standards for specific procurement actions, while still ensuring that the agency fulfills its responsibility to procure the designated item containing the highest amount of recovered materials practicable.

This method does not obviate the need for agency minimum recovered materials content standards. It should be applied to singular procurement actions only when an agency's minimum content standard is unattainable. If a procuring agency determines that it is consistently unable to procure an EPA-designated item using the minimum content standard it establishes, the agency should evaluate its needs and adjust its content standard accordingly.

3. Substantially Equivalent Alternative

The third approach specified in RCRA section 6002(i)(3) requires procuring agencies to consider a substantially equivalent alternative to minimum content standards and case-by-case policy development. For some items, the use of minimum content standards is inappropriate because the product is remanufactured, reconditioned, or rebuilt (e.g., industrial drums).

4. Requirements for Contractors

Government contractors also are subject to the requirements of RCRA section 6002. These requirements are applicable where the contractor uses appropriated federal funds and purchases \$10,000 worth of a designated item or purchased \$10,000 or more of the item in the previous year. See Appendix II, section A.2 for further clarification about the applicability of RCRA section 6002 to government contractors.

5. Exceptions

A procuring agency may not always be able to purchase a designated item with recovered materials content. RCRA section 6002(c)(1) allows a procuring agency the flexibility not to purchase an EPA-designated item with recovered materials content if any of the following conditions apply:

- The agency is unable to secure a satisfactory level of competition.
- The item is not reasonably available within a reasonable period of time.
- The item fails to meet the performance standards set forth in the agency's specifications.
- The item is available only at an unreasonable price.

Competition

EPA recommends that determinations of “satisfactory” competition be made in accordance with the procuring agency’s procurement requirements.

Availability and Performance

Information on the economic and technological feasibility of producing each designated item, including the availability and number of manufacturers that produce the item, the ability of the item to meet federal or national specifications, the recovered materials content levels used by manufacturers to produce the item, and other information can be found in the item-specific discussions in subsection 2, “Rationale for Designation,” of each item description discussion in sections VIII through XII of this document.

Price

In previous guidelines, EPA defined an unreasonable price as a price that is greater than the price of a competing product made from virgin materials. EPA further interprets the reasonable price provision of RCRA section 6002(c)(1)(C) to mean that there is no projected or observed long-term or average increases over the price of competing virgin items. This interpretation is supported in the preamble to OFPP Policy Letter 92-4 (57 FR 53364), which provides that there is no legal mandate to provide a price preference for products containing recovered materials over similar virgin products.

C. Promotion Program

RCRA section 6002(i)(2)(B) requires each procuring agency to adopt a program to promote its preference to purchase EPA-designated items with recovered materials content. The promotion component of the APP educates staff and notifies an agency’s current and potential vendors, suppliers, and contractors of the agency’s intention to buy recycled products.

EPA believes that an agency’s promotion program should consist of two components: 1) an internal promotion program, targeted toward the agency’s employees, and 2) an external promotion program, targeted toward the agency’s vendors and contractors.

1. Internal Promotion

Procuring agencies can use several methods to educate their employees about their GPP. These methods include preparing and distributing agency affirmative procurement policies through in-house electronic mail and other media; publishing or posting articles in agency newsletters and on the agency's Internet home page, including green purchasing requirements in agency staff manuals; and conducting workshops and training sessions to educate employees about their responsibilities under agency GPPs.

2. External Promotion

Methods for educating existing contractors and potential bidders of an agency's preference to purchase products containing recovered materials include the following:

- In agency contracting forecasts, identify future solicitations in which EPA-designated items will be supplied or used.
- In FedBizOps synopses of contract solicitations, identify whether EPA-designated items are required.
- Publishing articles in appropriate trade publications.
- Posting notices on the agency's Internet home page.
- Participating in vendor shows and trade fairs.
- Discussing an agency's requirements for EPA-designated items at bidders' conferences.

D. Estimation, Certification, and Verification

Agencies should use standard contract provisions to estimate, certify, and, where appropriate, reasonably verify the recovered materials content in a product procured by an agency. Programs also must be monitored and tracked to ensure that they are fulfilling their requirements to purchase items composed of recovered materials. The Executive Order 13423 implementing instructions require agencies to report compliance annually to the FEE.

E. Procedures to Monitor and Review the Procurement Program

The Interagency Sustainable Acquisition & Materials Management Practices Workgroup (SAMM) considered options for monitoring implementation of the green purchasing requirements, given resource constraints and limitations on the types of data available from federal procurement data systems. The SAMM

developed several recommended options for compliance monitoring, based on monitoring practices and procedures successfully used by federal agencies. These recommendations can be found on the OFEE Web site (http://www.ofee.gov/gp/complnc_monitorg_03022007.pdf).